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USSR Report

HUMAN RESOURCES

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LABOR

LABOR OFFICIAL ANALYZES PRODUCTIVITY IN CONSTRUCTION INDUSTRY

Moscow SOTSIALISTICHESKIY TRUD in Russian No 5, May 83 pp 7-18

[Article by Yu. Pak, USSR State Committee for Labor and Social Problems deputy chairman: "The Reserves Are Known. What Is Hampering Their Use? (On the Factors of Labor Productivity Growth in Construction)"]

[Text] It is often said that our entire country is an enormous construction site. And the map of the construction sites confirms that this is really so. From the Polar regions to the Pacific, from the Baltic to Central Asia, construction is underway on enterprises for all sectors of the national economy, railroads and highways are being built and gas and oil pipelines and communications lines being laid; sovkhozes and kolhozes are being organized, and everywhere the appearance of our cities and villages is being altered and new housing developments are going up. During each five-year plan more than 500 million square meters of well-appointed housing are commissioned. The scales of construction can be seen from the following figures: during the 10th Five-Year Plan capital investments in the national economy reached R634.3 billion; this made it possible to increase the country's fixed capital by a factor of 1.4. During the present five-year plan a 12-15-percent increase is envisaged in capital investments in the national economy from all funding sources. For comparison we note that during the 1st Five-Year Plan the figure was R8.8 billion in comparable prices.

Within the structure of capital investments up to 60 percent goes to construction and assembly work; during the present five-year plan work worth R415 billion must be carried out (the figure for the 1st Five-Year Plan was R7.2 billion). This has become possible thanks to the fact that cadres of skilled workers have been created within the sector, along with a firm material-technical base. Its basis is the developed network of contract construction and assembly organizations in which 660,000 specialists with higher and secondary specialized education are working. More than 9 million workers are now laboring at the construction sites. Fixed capital in construction now exceeds R68 billion, and at the end of 1982 the inventory of heavy construction machines was more than 600,000 units. In the last 10 years alone the machine-worker ratio has risen by a factor of 2.4

As in any other sector, the main economic indicator of efficiency in construction is labor productivity growth. And if we take a relatively large period of

time--two decades--it can be noted with satisfaction that within the sector, where the proportion of manual and heavy physical labor is quite high, undoubted successes have been achieved in labor productivity growth. Compared with 1940, by 1981 it had risen by a factor of 6.5. However, if we analyze the rates of labor productivity growth by periods, the picture is somewhat different: from 1960 to 1965 growth was 29 percent; from 1965 to 1970 it was 22 percent; from 1970 to 1975, the figure was also 29 percent; from 1975 to 1980 it was only 11 percent; for 1981 it was only 2.3 percent; and in 1982 the figure was 2 percent; and during the first 2 years of the present five-year plan labor productivity growth rates have not matched the five-year plan targets. From 1950 to 1960 the size of the labor force engaged in construction and assembly work per R1 million of completed work was cut by 163; from 1960 to 1970 the figure was 69; from 1970 to 1980 it was only 37. Thus, a dangerous trend has been established toward a lower rate of labor productivity growth even though overall progress in science and technology, including in construction, should apparently increase the rate.

It was not by chance that the state of affairs in capital construction was dealt with most seriously at the CPSU Central Committee November (1982) Plenum. In his speech at the plenum, CPSU Central Committee general secretary Yu.V. Andropov pointed out that "Much in the organization of construction matters themselves does not satisfy us. Year after year the shortcomings existing here lead to nonfulfillment of plans for the commissioning of capacities. A number of the construction ministries are reducing the volumes of construction and assembly work even though the government is allocating substantial financial resources, machines and equipment to strengthen the material-technical bases of these ministries. In many cases the quality of construction and assembly work remains poor. The construction organizations are insufficiently mobile. Many decisions have been made aimed at eliminating these shortcomings. They must be fulfilled. Bringing order to capital construction is a central national economic task."

In order to bring order to the sector it is essential first and foremost to take inventory of available reserves and outline the main directions of work to improve the efficiency of construction production and labor productivity growth. In particular, attention must be given to the manifest disparity between the growth rates for the labor machine-worker ratio in construction, fixed capital, and labor productivity. Thus, from 1960 to 1980 the machine-worker ratio rose by a factor of more than 5 and fixed capital by a factor of almost 9, but productivity rose only by a factor of 2.3. Studies repeatedly conducted at various levels of management show that the reason is the poor use of the considerable reserves. Let us examine this in more detail.

The Organizational Structure and Technology of Construction Production.

The sector now contains more than 27,000 state primary contract construction and assembly organizations. Of these, 20 percent has a planned work volume of less than R1 million annually; 58 percent have a volume of from R1 to R3.2 million, and only 7 percent have a volume greater than R5 million, that is, can be assigned to the first group. In the same way, the annual volume for half of the construction and assembly trusts is up to R15 million, and only 18 percent are trusts of the first group for whom work worth more than R25 million is planned.

Typically, the number of construction and assembly organizations is growing much more rapidly than planned volumes. Thus, whereas in 1980 the numbers increased 4.1 percent, the number of primary subdivisions increased 17.4 percent and the number of trusts 8 percent. In practice this leads to the formation of small, weak, unprofitable structural subdivisions. Analysis of their economic activity has shown that where the annual volume of work does not exceed R1 million overheads and administrative-management expenditures are 1.5 to 2 times higher than in organizations with a volume of R2 million to R3 million or more. In the large organizations, actual prime costs for construction are almost 10 percent lower while labor productivity is 11-12 percent higher. The calculations show that even with a moderate consolidation of the small construction organizations it is possible to free several hundred thousand workers from the sphere of administrative-management activity.

Thus, the reserves here are obvious, and they have been known for a long time, but unfortunately they are not realized. A certain inertia on the part of economic leaders and in a number of cases parochial tendencies and certain other reasons, which in general can be eliminated, are hampering this.

Construction production is organized from a complex of interacting processes--main, auxiliary, transportation--each of which in turn consists of working operations. In addition, construction processes can be mechanized, automated or manual. Given the present deep division of labor, many specialized, independent organizations participate in the construction of a given project. Under these conditions, it is possible to carry out construction and assembly work within given time periods and with the best technical-economic indicators only if a general organizational-technical solution can be found corresponding to the specific form of construction process, and also when the working operations carried out by all the participants are coordinated in a unified complex.

To this end a project should be worked out for the organization of construction, and this should form the basis of the work production project, one of whose most important elements is the technological charts compiled on the basis of the labor resources chart.

The best technological solution at the present stage is considered to be production work by the flow method, when individual construction and assembly processes are combined and the efforts of the collectives participating in the construction are regulated with the aid of a summary network schedule. In this case the serious engineering approach guarantees elimination of losses of working time and high rates of work with high quality, and thus labor productivity growth is assured. In practice there are many examples of complicated industrial and civilian projects organized on the basis of progressive technology for fast construction (for example, the VAZ and KaMAZ automobile plants and other enterprises).

Meanwhile we have many construction sites where there are no projects for construction organization and the organization of work; and even where these documents are to hand they are often not observed for a number of objective and subjective reasons. As a result, technology is disrupted, there are stoppages, and construction rates decline. The most widespread consequence

of this is most often the so-called open losses of working time, which make up 8-10 percent of the total. They are caused mainly for reasons such as the incorrect disposition and storage of materials, inefficient work methods, errors and defects in blueprints, the unsatisfactory quality of parts, structures and instruments, correcting defects and so forth. Because of the lack of organization in the construction process the actual times for the commissioning of projects and projects nearing completion are 1.5-2 times greater than the normative.

The technological input in projects for constructing buildings and structures exerts a marked effect on labor productivity growth rates. The duration of the construction process in its entirety or of completion of given work depends on the weight and kind of the planned structures and elements, the availability of standard equipment, attachments and mechanism, machine intensiveness and a number of other factors.

Structures and materials provided for by the projects, and also volume-planning decisions, should be insured by the kind of technology that would make it possible to reduce labor costs at the construction site. In practice, however, the construction workers still have to deal with inadequate technological design decisions. The technical stages are often projected with large volumes of labor-intensive work to set up monolithic reinforced concrete structures, and large amounts of earth have to be moved as the storeys are raised. The frames of buildings are made from heavy structural elements. The volumes of stone work and other manual labor are great in buildings that are considered industrial.

Even with the modern methods of construction from large elements, assemblies, panels and blocks with full prefabrication of bearing and enclosure structures (and it is from these that the technology is primarily judged), an extraordinary amount of manual labor is used. For example, joints are welded and made solid, seams are covered, various kinds of packing work is done, and so forth, all manually. At the same time, the projects still provide for only minor use of labor-saving elements such as anchor piles for the foundations beneath the columns of industrial buildings, lightweight metal and timber structures, structural glass shapes and multiple glass units for enclosure structures, industrial partitions, lightweight concretes, efficient heat-insulating packing and so forth.

According to calculations done during the 10th Five-Year Plan it was proposed to gain at least a 10-percent increase in labor productivity through more technological work, the introduction of effective materials and structures and increasing the degree of prefabrication, but in fact only 3.5 percent has been achieved.

The general direction of scientific and technical progress in construction production, whose ultimate goal is to make this work as close as possible to industrial work, is still being poorly followed. This would make it possible to intensively raise labor productivity in the sector and reduce its expenditures at construction sites and transfer the main part to plant conditions, and also improve the quality of work. Insufficient use is being

made of assembly, flow and complete prefabrication and other methods for organizing the construction process that have recently been checked by practice. There is little effort to set up technological equipment at open sites in a number of sectors (chemicals, petrochemicals, the food industry, power engineering), which reduces the volume of construction work and labor intensiveness by factors of 10-15. Both Soviet and foreign practice has shown that such solutions are quite possible.

One enormous reserve for labor productivity growth and saving material resources is the extensive introduction in construction of high-strength steels, economic rolled pieces, lightweight metal structures, roof coverings, and the walls of buildings made from shaped thin-plate steel with effective thermal properties, and economic kinds of pipes (polyethylene, slag-and-silicate and so forth).

Thus, raising the level of industrialization in construction on a large scale reduces the labor input at construction sites and the duration of the construction process, and this insures a considerable saving of both live and embodied labor. At this time, however, the matter is arranged so that either the planning organization is poorly informed about the innovations and does not include them in the plans, or there is a lack of production capacities for manufacturing the efficient materials and structures, or the raw materials for this are planned in inadequate quantities. Evidently a radical change in the situation can be achieved only by a goal-oriented comprehensive program covering a long period of time.

Raising the Level of Mechanization in Construction.

Two factors are decisive in this problem, namely the composition of the inventory of construction machines and the degree of its use. At the end of 1981 there were more than 580,000 basic machines alone (excavators, scrapers, bulldozers, cranes). In recent years newly designed, up-to-date machines have appeared: excavator-levelers, rippers based on the 250-horsepower tractor, caterpillar erecting cranes with a lifting capacity of 100 tons, trenchers for work in frozen ground, and others. Notwithstanding, the main inventory is still being replenished with traditional machines with small unit capacities and low productivity, which, first, does not insure the necessary growth in work and, second, entails an extraordinary increase in the numbers of servicing personnel. And this lowers total labor productivity in construction. Soviet and foreign experience shows that in order to solve the tasks facing the sector the average capacity of the basic machines must be increased by a factor of at least two or three.

The course toward comprehensive mechanization is of very great importance. By squeezing out manual labor, it, and only it, is capable of insuring the highest productivity under present conditions. To this end it is necessary to develop mechanized complexes not only for the assembly of the basic elements of buildings and structures but also to mechanize all accompanying processes. If we look at the latest statistics we see that in 1981 ground work was comprehensively mechanized 98.3 percent, the erection of concrete and reinforced concrete structures 97.1 percent, concrete preparation 88.1 percent, preparation of mortar 76.1 percent, and concrete and reinforced

concrete work 93.5 percent. It would seem that the picture is not at all bad, but at the same time each year up to 100 million cubic meters of earth work in construction is done manually, and about 30 million tons of nonrock materials and metal and reinforced concrete and more than 6 million tons of cement are loaded and unloaded by hand. Neither should it be forgotten that although the level of mechanization for particular processes and operations is very high, sometimes approaching 100 percent, the lion's share of the sector's labor force is still working on nonmechanized processes. The reserves here for labor productivity growth are obvious.

And now something else, just as important as reserves. Studies show that the available inventory of machines is being used insufficiently productively: over the past 5 years work done expressed in physical terms has not been growing. The reason lies primarily in the great losses of machine operating time (16-18 percent). In recent years its average daily size has stabilized: average daily duration of work for excavators is 10.8 hours, for scrapers 9.8 hours, for bulldozers 10.6 hours, and for erecting tower cranes 12.4 hours. But the normal daily load for this equipment should be at least 50 percent greater.

Here, too, the reasons are known: untimely preparation of the work front, above-normative time for the repair of equipment, frequent breakdowns during the shifts, the different productivity of the machines being operated as a set. Increasing the time of useful work for construction machines means hundreds of thousands of cubic meters of earth moved, thousands of tons of construction materials and structures delivered to the work sites and so forth. It is a powerful reserve for labor productivity growth and reducing construction prime costs. But for many years it has remained unused.

There is more. Up to now it has not been possible to adequately provide construction with the means of small-scale mechanization and mechanized instrumentation providing opportunities for reducing labor-intensiveness on those sections where most of the three-million-strong army of construction workers using manual labor is engaged. Within the sector its expenditures largely cancel out the effect provided by the mechanization of individual processes. For example, at projects with fully prefabricated construction, the period for carrying out individual operations often exceeds the time taken to erect the main structures.

The relationship between the numbers of workers engaged in mechanized labor and manual labor in individual construction ministries, as of 1 August 1982, is shown in table 1 below.

Let us consider these figures in generalized form and dynamically.

During the period 1972 to 1982 the total number of workers in the sector increased 5 percent, including 18 percent for those working using mechanized methods. At the same time the number of workers doing manual work not with machines and mechanisms declined only 2 percent while the proportion of manual repair on machines and mechanisms increased 11 percent during the same period.

According to the figures for 1 August 1982, in concrete work 52 percent of workers were engaged in manual labor not with machines and mechanisms, in stone

Table 1.

Number of workers as percentage of total
number carrying out work

Ministry	Using machines and mechanisms	manual with machines and mechanisms	manual without machines and mechanisms	manual for repair of machines and mechanisms
of Construction in the Far East and Transbaykal regions	40.4	11.4	44.0	4.2
of Rural Construction	32.4	9.3	55.7	2.6
of Power and Electrification	48.3	9.6	38.4	3.7
of Construction of Petroleum and Gas Industry Enterprises	37.9	9.2	48.8	4.1
of Transport Construction	49.1	14.4	32.8	3.7
of Industrial Construction	37.2	10.5	48.1	4.2
of Installation and Special Construction Work	54.4	9.4	34.5	1.7
of Construction of Heavy Industry Enterprises	41.8	12.4	41.2	4.6
of Construction	41.1	12.0	42.1	4.8

* * * * *

and chimney work 89.4 percent, in plastering and painting and facing work 71.3 percent, and in carpentry and joinery work 75.9 percent. And whereas, say, in stone, chimney and facing work a high proportion of manual labor results from the nature of this work, in plastering, painting and carpentry work it is explained primarily by the inadequate level in the use of better methods for doing this work and of means of mechanization, and this falls primarily within the competence of the ministries. It is obvious that the scales of mechanization organized in construction are still failing to provide the expected shifts. And this means that additional measures are necessary to insure a considerable reduction in low-productivity manual labor in the construction organizations. A substantial reduction in the labor intensiveness of plastering, painting, roofing, facing, sanitary engineering, electrical and certain other kinds of labor-intensive operations has now become a decisive task.

The following example is indicative. During the 10th Five-Year Plan a start was made in construction on the extensive introduction of technological sets (standard kits) of means of small-scale mechanization for equipping brigades of workers for the kinds of work that they do. Given normal organization of their production and the correct choice of brigade, this makes it possible to raise labor productivity 25-30 percent, and when the construction scales are large, by a factor of 1.5-2. However, because of the shortages of production

capacities the machine toolmakers are unable to provide the sector with the means of small-scale mechanization and mechanized instruments. As a result, the construction ministries, engaging in a matter that is not their direct concern, are producing much themselves, but in inadequate quantities and not of the required quality.

This problem is of enormous national economic significance and until it is resolved it will be impossible to achieve the necessary growth in labor productivity. It requires enhanced daily attention on the part of the USSR Gosplan, the USSR Gosstroy, and the construction and machine toolmaking ministries.

However, it is little enough to saturate construction with the means of small-scale mechanization; it is important that they be used efficiently. These means frequently turn out to be scattered among the construction administrations of a trust, which cannot insure their normal technical servicing and repair. Experience shows that the most effective form in this case is specialized administrations. The concentration of the means of small-scale mechanization makes it possible to reduce applications for it 15-20 percent.

Improving Labor Organization.

Each year this factor makes it possible to effect in construction a relative reduction of 40,000 to 50,000 people, which represents about one-fourth of total productivity growth. Meanwhile, both in planning and in practical activity, this factor in labor productivity growth is still underestimated by many construction ministries and administrations and their organizations.

It seems to us that a comprehensive approach makes it necessary to think about the structure and content of the plans themselves for the scientific organization of labor. For example, it is expedient include in them at all levels a direction such as reducing the expenditure of manual and unskilled and heavy physical labor, in which in construction more than 50 percent of workers are engaged.

Just as in the plans, little attention is given to the better use of calendar working time. In general, throughout construction this indicator is 88 percent, but it could be higher if absenteeism because of sickness were reduced and labor protection improved, and also absenteeism with administration permissions and the complete-shift and intrashift stoppages that, of course, do the greatest harm. On average, in construction these amount to 8-12 percent of shift working time, and in individual construction organizations the figure is 30 percent. Calculations of intrashift losses of working time done by the normative study stations show that in recent years there has been a tendency for them to decline, but if we judge from total results it might result rather from certain changes made in the calculation methodology. Intrashift losses of working time are the equivalent of hundreds of thousands of workers not working each day at the construction sites. Moreover, a main (if not the chief) reason is the artificial maintenance of wages ("cushioning") [vyvodilovka], which disrupts the system by which they are organized and as a consequence leads to wage leveling and lowered work intensity.

Thus, dealing with losses of working time in construction is an enormous reserve in saving labor. The practical work of the leading organizations shows this. Thus, merely by reducing losses of working time the collective of the trust pledged itself to complete an additional annual R270,000 of construction and assembly work.

Personnel turnover, which is being reduced extremely slowly and remains substantial, is an extremely urgent problem for construction workers. It entails enormous losses of working time: each person transferring from one construction site to another loses 25-30 days. In addition, his labor productivity falls off before his departure from his earlier position and takes time to reach the proper level at the new one.

As is known, a one-time bonus has now been introduced everywhere in construction for long service, and at one time the construction ministries regarded this as the main means for retaining personnel. Practice shows, however, that when divorced from a set of other measures (improvements in working conditions and internal collective relations, resolution of housing and personal services matters and so forth) it has no effect, and personnel turnover continues to hamper normal work in the sector. Evidently more serious attempts must be made to insure stability, but up to now most of the construction ministries have not implemented such measures. It is a matter first and foremost of the USSR Ministry of Power and Electrification, the USSR Ministry of Rural Construction and the USSR Ministry of Land Reclamation and Water Resources. In this connection, it seems to us that plans for the scientific organization of labor could include a section on the stabilization of production collectives. It could provide for measures helping to create a favorable psychological climate, eliminate the reasons for violations of labor discipline, enhance the content of work and so forth. The plans could reflect all of these things or only some of them, depending on the opportunities of the specific organizations.

Wages.

As before, the organization of wages, the consistent implementation of the socialist principle of distribution according to labor, and also the strictest observance of state and public control over the measure of labor and the measure of consumption, exert a strong influence on labor productivity. There can be no high productivity with leveling or with a disparity between the final results of workers' and production collectives' labor and the boons that they enjoy.

CPSU Central Committee general secretary Yu.V. Andropov gave special attention to this basic problem in his article "The Teaching of Karl Marx and Certain Questions of the Building of Socialism in the USSR." It is stated in the article that "the so-called truisms of Marxism should be addressed with more care, for a lack of understanding of them or disregard of them is severely punished by life itself. For example, the entire significance of Marx's views on distribution was realized at the cost of much labor and even errors. He consistently pointed out that during the first phase of communism each worker 'receives back from society after all deductions as much as he has given,' in short, in direct proportion to the amount and quality of his labor (see

K. Marx and F. Engels. Works, Vol 19, p 18); and this accords with the main principle of socialism--'from each according to his abilities, to each according to his labor.' An irreproachable democrat and humanist, Marx was the resolute enemy of leveling and he categorically refuted the frequent and in his time demagogic or naive arguments about socialism offering 'general equality' in distribution and consumption." (KOMMUNIST No 3, 1983, p 15)

Over the years that have elapsed since the introduction of the existing wage conditions (1969), many negative phenomena have appeared in the construction organizations, lowering the role of wages as a work incentive. Because wage tariffs have fallen behind the actual level established for wages, the tariff system has largely lost its ability to function as a regulator. The tariff proportion of wages has decreased but there has been a sharp increase in the proportion of wages for norm overfulfillment, whose indicator (134 percent) is artificially pushing wages below the level essential from the viewpoint of the construction managers.

It is time to put a stop to this practice. Each economic leader, whatever his rank, must understand with absolute clarity the indisputable fact that the organization of wages without taking into account the actual labor contribution of the worker does both material and moral harm. By compensating through the state for the losses of working time the administration often practices writeups for workers' wages, overspending the wages fund. The boundaries of the writeups are gradually being eroded, and wages are getting out of control and their links with labor services being lost. As a rule, in this case wages began to grow more rapidly than labor productivity. Thus, in the 10th Five-Year Plan labor productivity in construction rose 11 percent while wages increased 15 percent; in 1981 the corresponding figures were 2.3 percent and 3.3 percent, and in 1982 they were 2 percent and 3.7 percent respectively.

As a result the prime cost of construction and assembly work rises, accumulation is not insured and the size of the incentive fund decreases. The unregulated movement of wages upsets the most important economic proportions. One of them is the relationship between the wages of workers and engineering-technical workers. In 1940, the average monthly wages for engineering-technical workers were 2.4 times greater than for workers, but in 1982 they were virtually the same. This lowers the social prestige of the engineering professions and nullifies the role of the engineer--the main support of scientific and technical progress--with all the adverse consequences stemming from this.

Thus, in the interests of labor productivity growth it is necessary in addition to bringing order to the entire system of wages organizations by consistently implementing the socialist principle of distribution according to labor. This should be promoted by the introduction of new wage-tariff conditions in construction; but it must be remembered that this kind of measure requires considerable--billions--of expenditures from the wages fund. And this means that preparations must be made in good time so as to create the essential conditions and to accumulate the necessary resources. In particular, it is already advisable to draw up on a centralized basis consolidated norms for working out wages that exclude writeups for auxiliary work that is in fact

not done. And here a consistent approach is essential, taking into account the implementation by the construction and assembly trusts of organizational-technical measures that promote labor productivity growth, which in turn insures accumulation of the necessary monetary resources.

Obviously this process requires quite a lot of time, and it is advisable to implement immediately measures to bring order to wages. In order to deal with this situation it is advisable to develop the initiatives seen in construction aimed at carrying out established volumes of work with fewer personnel. These include the initiative of the Sverdlovsk construction workers, approved by the CPSU Central Committee, under the slogan "The Five-Year Task of the Brigade with Fewer Personnel," to disseminate and enhance the effectiveness of brigade cost accounting and the brigade contract. However, on the basis of applying the normatives for wages per ruble of production (work), it is very important to strengthen the dependence of the wages of each worker and of the labor collectives as a whole on labor productivity growth and improvement in final results from the activities of the construction organizations and to use the entire system of material incentive to reduce the expenditure of live labor, as envisaged by the CPSU Central Committee and USSR Council of Ministers decree on improving the economic mechanism. It is essential to recruit the production collectives more broadly for production management, and primarily to give them the right within the limits of established normatives and funding to establish the size of bonuses and wages paid for the results of work by the entire brigade, taking into account the actual labor contribution of each of its members.

Thus, the arsenal of means available for an upsurge in labor productivity through wages is great. But they will all provide an effect only if the basis for them is measures aimed at improving labor itself.

Since in this five-year plan the brigade form for organization and wages should also become a base, as we consider the prospects for labor productivity growth in construction we must touch on this problem. As is known, the brigades have existed within the sector for a long time, right from the inception of the brigade. Since then the brigade organizational arrangements have been constantly improved: from crews to specialized brigades, from specialized brigades to comprehensive brigades, from small to large, from regular to cost-accounting, and finally to cost-accounting brigades working with the contract method. The total number of brigades in construction now exceeds 200,000 altogether, each with an average of 15-20 people. Comprehensive brigades make up about 60 percent of them and cost-accounting brigades working on contract 40 percent.

Each stage brings for construction an additional rise in the productivity of live labor, but the possibilities of improving the brigade form in the sector are by no means exhausted. Now it should evidently move in three directions: it is essential to consolidate the brigades, thus reducing their total number; they must be transferred more rapidly to cost accounting and the work contract and--the chief thing--its effectiveness enhanced; and there must be broader dissemination of the highest form of the brigade contract for the organization of labor in construction, namely the integral, flow-line brigade contract, which saves both live and embodied labor. Let us deal with the last named in rather more detail.

The integral, flow-line brigade contract is based on the flow method in construction, and it provides for an even and constant work load on the various elements of the construction conveyer belt plant--inventory--transportation--construction site, according to agreed schedules drawn up taking into account the commissioning of production capacities and construction projects within established periods. The effectiveness of this method is confirmed by the experience of the "Kazmetallurgstroy" trust, where this method was used first in 1973 for the construction of small projects, and then in 1981 for a major construction project--the sheet-metal shop at the Karaganda metallurgical plant. The general-contract brigades and all the subcontracting brigades, the client services responsible for inventories, the organs of material-technical supply and so forth were involved in the integral, flow-line contract. The general agreement was concluded at a meeting of the construction site aktiv. In addition, agreements were concluded on the mutual obligations of the subcontracting brigades. The consolidated brigades for the integral, flow-line contract significantly reduced lagging in the schedules for the construction. Work done per worker increased 10.6 percent, more efficient use was made of construction machines, and work was always carried on in two or three shifts. Compared with 1980, in all, the "Kazmetallurgstroy" insured a 17 percent increase in volumes in 1981.

What, in our view, is still required in order to improve the brigade form of labor organization in construction? It is essential first and foremost to practice everywhere a fair distribution of wages within the brigade using the coefficient of labor participation, which is still little used in the sector. It is also necessary to organize special training for the brigade leaders of consolidated cost-accounting brigades working under the contract method. In this capacity they need solid economic and technical knowledge, and also strong skills in organizational work. Finally, using the experience of the Vinnitspromstroy" construction combine it is essential to plan the production load for the brigade for the five-year period and for the year, and also to introduce material-technical backup for complete sets of equipment directly for the consolidated brigade.

Social Factors in Labor Productivity Growth.

V.I. Lenin wrote that one important condition for improving labor productivity is the educational and cultural upsurge among the masses of the population. By touching as it does on all aspects of a society's life, scientific and technical progress makes great demands on each person and on his knowledge and professional training. A direct and increasingly marked correlation exists between a worker's education and skills and his labor productivity. Under present conditions, inadequate education, poor technical competence and low professional standards affect production just like obsolete equipment and old technologies.

The mass of new workers arriving at the construction sites are not all the same. Some 73 percent of them are being trained directly in production for 3 to 6 months. The training targets here are cut back and they provide only for current needs and fail to take into account prospects for development in construction and the need to create a reserve of skilled personnel. The content

of the training process does not represent a strictly determined system of knowledge that sequentially reveals the main scientific principles of modern production. As a result, the worker acquires only work skills but does not obtain a finished, professional-technical education.

Practice shows that given the present periods and methods for training workers in production, several years are required for them to master skills to perfection. Meanwhile, according to figures from the All-Union Scientific Research Institute and Planning Institute for Labor, in construction, raising the skills of a worker in a brigade by a total of 0.1 increases the labor productivity of assembly workers 4.7 percent, stone workers 5.8 percent and plasterers 7.3 percent.

It is possible to utilize the powerful reserve for labor productivity growth offered by occupational training in two directions. First, it is essential to substantially increase the proportion of all new workers trained within the system of the USSR State Committee for Vocational and Technical Education. Here, almost everything depends on the construction workers themselves since in order to expand this kind of training the efforts of the construction organizations are needed to create the necessary material-technical base. Second, there must be a centralized reexamination of the periods, programs and methods for training workers in production so as to sharply raise its level.

It should be noted that social factors in labor productivity growth are sometimes not assessed qualitatively, and they are disregarded in labor productivity growth plans. This, of course, is a problem in our practical work. Social factors act on many planes. They include first and foremost the formation of the working collective (occupational orientation, work with new people, the system for worker occupational and social growth and so forth). At the same time it is important to enrich the content of labor, provide workers with housing and create prospects for solving this problem, develop a network of children's establishments located conveniently with respect to residences, insure conditions for evening and correspondence studies at secondary and higher educational establishments and for people's cultural and personal needs, and improve relations between the members of production collectives.

Most of these matters are reflected in the social development plans worked out within the state plans for economic and social development at all levels, as envisaged by the CPSU Central Committee and USSR Council of Ministers decree on improving the economic mechanism. The importance and special feature of these plans is that under the conditions of mature socialism, social progress is both the goal-oriented line and the collectivized result of growth in social production, and also a prerequisite for the further development of the economy.

One tried and tested and powerful means of influencing the entire life activity of the production collective is socialist competition, acting as a powerful lever for labor management. Its highest degree is the movement for communist attitudes toward labor, in which the struggle for an upsurge in production efficiency and to achieve the highest labor productivity is combined with education for people and their desire to raise their own general educational and cultural and technical level.

In construction, a careful study is now being made of leading experience by those participating in jubilee shock labor in honor of the 60th anniversary of the formation of the USSR, and it is being daily disseminated. More than 97.5 percent of all those working in the sector participated in socialist competition under the slogan "Sixty Shock Labor Weeks for the 60th Anniversary of the USSR," and this produced extremely weighty results. Its winners gained rich experience that is a very valuable source for raising production efficiency and quality.

Many effective forms of socialist competition have been born in construction (the "Working Relay Race," "Building Ahead of Schedule, Commissioning Ahead of Schedule" and so forth). At the same time it must be frankly acknowledged that the organization of competition is not free of shortcomings. The chief of these is that often, individual useful initiatives are not disseminated, while even a small gain in labor productivity made in one collective gives a result multiplied many times over if it is repeated in many similar collectives.

This is by no means a complete review of labor productivity growth in construction. It indicates the considerable opportunities in the sector; and their poor use may be explained mainly by the imperfection of existing economic and management methods in construction production and a lowered level of discipline. The economics of the sector have still not been reoriented on the intensive path of development. And this is precisely the essence of the matter.

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LABOR

MONETARY, HONORARY INCENTIVES IN CONSTRUCTION INDUSTRY CITED

Moscow EKONOMIKA STROITEL'STVA in Russian No 5, May 83 pp 22-26

[Article, unattributed: "Basic Regulations for the Administration of Socialist Competition in Construction: Moral and Material Incentives"; passages rendered in all capital letters printed in boldface in source]

[Text] In the administration of socialist competition, one of the means of economic, organizational, ideological, social and psychological influence on those taking part in the competition is stimulus (reward) for the purpose of arousing, maintaining and developing labor and social activeness among the competitors, the striving for winning first place in the competition and holding it.

Encouragement of those taking part in the competition is accomplished by means of the use of moral and material stimuli, through the factors of incentives which increase the interest of the workers to take part in the competition, to accept and to carry out most effectively their socialist obligations.

Most forms of material stimulus are at the same time a form of moral stimulus as well. Thus, a monetary reward is an active material stimulus, and its size reflects the degree of public recognition of the success which was achieved; and it raises and strengthens the prestige of the one on whom it is bestowed.

Moral stimuli include: prestige, as a degree of recognition, respect, and the degree to which the collective rates the authority of an individual worker or a collective; public opinion, which rates the behavior of each member of the collective in accordance with the norms which obtain; and the realization of the workers that they are working for society and not for themselves.

Material stimuli in socialist competition include such benefits which serve to satisfy the material needs of man and can be quantitatively expressed directly in monetary form (a prize, a valuable gift, etc.) or mediated through privileges of a social or cultural character (cut-rate or free trips, granting first choice in living accommodations and so on).

Moral stimuli are: official decorations, Red Banners, honorary titles, specially-prepared prizes, streamers, diplomas, degrees, badges and commemorative plaques, entry in the Honor Roll or the Book of Honor, a photograph with the banner unfurled, flying the flag of labor glory, telegrams and letters of congratulations and greetings, commendation and others.

The system for moral and material incentives must meet the following requirements: it must be objective, easily understood, and must support the interest of those taking part in the competition in accepting and carrying out their socialist obligations; it must correspond to the quantity and quality of the efforts expended by the competitors in carrying out their obligations; and it must support the effectiveness, publicity and ceremoniousness of the incentive.

When utilizing the various types of incentives in the form of moral and material stimuli, one must adhere to the following requirements: the consistency and the continuity of the forms of incentive; differentiation of material incentive, in accordance with the social significance of the results of the competition; and, observing the unity and the interaction of moral and material incentives.

The forms and the terms of incentive for those taking part in the competition must correspond to the conditions of socialist competition.

The sources for payment of monetary funds for material incentives for the winners in intra-construction project competition are the material incentive funds of the construction organizations and enterprises, and other funds earmarked for these purposes.

The sources for paying monetary bonuses to the collectives which won an All-Union Socialist Competition are defined in the Decree of the USSR Council of Ministers and AUCCTU of 24 June 1981, No. 580, "On the Procedure for Calculating the Results of Socialist Competition for Successful Fulfillment and Overfulfillment of the Tasks of the 11th Five Year Plan".

Payment of monetary bonuses on the results of All-Union Socialist Competition is made: to production associations, enterprises, construction and other organizations which belong to the self-supporting as well as to the production units of the associations—by virtue of profits greater than planned (when this is insufficient, by virtue of the net surplus of the profits; in situations where profits are not planned—by virtue of above-planned savings from reduction of production costs, received by the production association, enterprise or organization since the beginning of the calendar year (for subsidized enterprises and organizations—by virtue of savings from the actual reduction of losses); to production associations, enterprises and organizations of ministries which have been converted to the normative method of profit distribution—by virtue of above-planned profits prior to their distribution in accordance with established standards.

In those cases when no profits are envisaged for the construction organizations in certain quarters or years of the five-year plan, for a task of putting into operation production capacities or projects, or construction products to be marketed (or envisaged in insignificant amounts), bonuses are paid out at the expense of above-plan profits or above-plan savings, received from reducing the production costs of construction and installation work and above-plan accumulations for unfinished construction.

When the indicated sources are lacking, bonuses are paid to production units at associations at the expense of reserves (centralized funds) through the material incentive fund of the ministry (department), all-union industrial (construction-installation) associations or by virtue of the funds stipulated

in Point 5 of the Decree of the USSR Council of Ministers and the AUCCTU of 24 June 1981, No. 580 (0.1 % of the total (planned) fund for wages) for paying bonuses and acquiring commemorative gifts for the workers of the enterprises and organizations—the winners of socialist competition; to scientific-research, technological planning and designing organizations, to the institutes (trusts) of Orgtekhstroy [possibly, Organization for Mechanization of Construction] and Orgstroy [State Institute for the Introduction of Advanced Operational and Labor Methods in Construction], to the centers for scientific organization of labor, which operate on a self-supporting basis—at the expense of profits which remain, in accordance with the legislation in effect, at the disposal of these organizations, but which is part of the state budget—by virtue of savings in funds for estimates in experimental-design and scientific-research work. In case the resources indicated are insufficient, monetary bonuses can be paid at the expense of the central fund for awarding prizes for the creation and introduction of new equipment, from the ministry (department); to planning and procurement organizations, which carry out work for capital construction—by virtue of above-plan profits, which they have received since the beginning of the calendar year, and when these are insufficient, in the organizations which have been transferred to the new system of planning and economic incentive—at the expense of the net surplus of profits of the organization. In those cases where no profits are envisaged (or are envisaged in insignificant amounts) for planning and procurement organizations for furnishing finished products to the clients or other planned production, for certain quarters or a year of the task, the bonuses are paid in parts, not covered by balanced profits—at the expense of above-plan savings from the reduction of production costs of unfinished planning and procurement work.

For bestowing individual awards on workers, engineering and technical personnel and office workers who have distinguished themselves in All-Union Socialist Competition, one may utilize up to 100% of the sum allocated if the amount of the bonus is less than 2,000 rubles; when the bonus is greater than 2,000 rubles, up to 70% may be utilized. The remainder of the bonus is used for construction and repair of living quarters, cafeterias and dormitories, community and cultural centers, sanatoria, preventoria, holiday hotels, rest houses and bases, kindergartens and nurseries and other cultural and everyday and health projects, for acquiring furniture and equipment for them, literature for the libraries, and for cultural-educational, health-improvement and physical culture measures.

Expenditure of funds for awarding prizes for the results of socialist competition is made by the administrators of the associations, enterprises, organizations and institutions, in cooperation with trade union committees.

Funds allocated for awarding individual prizes to workers, engineering and technical personnel and office workers, are distributed proportionally for payments from their wage fund and the fund for material incentive. At the same time, awarding prizes to the supervisors of organizations, who have freed party, trade union and Komsomol workers, staff workers at large newspapers and local radio broadcasters, for other duties, are made by virtue of the funds which were allocated for awarding prizes to engineering and technical personnel according to their organization, or their enterprise as a whole.

The administration and the trade union committee of an organization or enterprise may, depending on the level of production efficiency and the quality of work increase or decrease, within the limits of the total sum, the size of the bonus for the collectives of their subordinate units.

Awarding prizes to the winners in socialist competition is carried out in accordance with their personal contribution to achieving significant results in economic activities, and to increasing production effectiveness and quality. The minimum amount of bonus for one worker should be not less than 10% of his monthly wage rate (salary). The bonus may be increased for workers who carry out all tasks during a quarter with a rating of "excellent". Workers who have committed violations of labor and production discipline, or rules of behavior in public and domestic life are not authorized to receive bonuses.

A most important factor in the efficacy of moral and material incentives is the flexible utilization of the stimuli, and their differentiation, depending on the specific peculiarities of the industrial and economic activity of the collective, and its members, as well as other production and social factors.

The effectiveness of incentives depends to a great extent on the conditions in which they are used, and the degree to which the incentive measures correspond to the achievements of the competitors.

It is necessary to provide for the possibility of increasing the size (or the significance) of the incentives for certain workers and collectives which have repeatedly been recognized as victors and prize-winners in socialist competition—which provides an incentive to not only strive to win first prize, but also to hold it for an extended period.

It is necessary to avoid equal distribution of bonuses among those taking part in the competition. The incentive should correspond to the degree of carrying out the socialist obligations and the achievements of the competitors.

Consistency in following the principle of interdependence of moral and material stimuli permits consideration of the tendency toward growth in the role of moral stimuli at the contemporary stage of communist construction.

FORMS OF MORAL INCENTIVES. Forms of moral incentives may be divided into two groups: the first is directly associated with the specific forms of socialist competition which are fixed according to the conditions (situations), and the second actively promotes the development of socialist competition and an increase in the labor activity of the competitors.

The forms of moral incentive envisaged by the conditions (situations) of socialist competition include: advertising the victor and the prize-winner of the competition; awarding Red Banners, streamers, or degrees; conferring the title of "Best in the Profession", "Excellent Quality-Worker", "Shock Worker (Collective) of Communist Labor"; entry on the Honor Roll and in the Book of Honor, and others.

The forms of moral stimulus, not associated with a specific form of socialist competition, include: official decorations, honorary titles at the union and republic level, honorary diplomas, the title "Veteran of Labor", letters and telegrams of commendation, congratulations and greetings, and so on.

THE SYSTEM OF MORAL INCENTIVES. Official decorations of the USSR: the Order of Lenin; the Order of the October Revolution; the Order of the Labor Red Banner; the Order of the Friendship of Nations; the Order "Mark of Honor"; the Order of Labor Glory; I, II and III class; the Golden "Hammer and Sickle" Medal (together with the Order of Lenin); medals: "For Labor Valor", "For Labor Excellence", "Veteran of Labor", "For Building the Baykal-Amur Railroad", "For Transformation of the Non-Chernozem of the RSFSR", "For Opening Up the Depths and Developing the Oil and Gas Complex of Western Siberia", and the standard all-union medal, "Shock Worker of the Five Year Plan".

Honorary titles of the USSR: Laureat of the Lenin Prize, Laureat of the USSR State Prize, Laureat of the Leninist Komsomol Prize, Laureat of the Soviet Trade Union Prize.

Honorary titles of the RSFSR and the other union republics: "Honored Builder of the RSFSR", "Honored Architect of the RSFSR", "Honored Economist of the RSFSR", "Honored Mentor of Youth of the RSFSR", and others.

Decorations of the Komsomol Central Committee: Honorary medals of the Komsomol CC, the medal "For Participating in the Building of the Baykal-Amur Railroad", the medal "Young Guardsman of the 11th Five Year Plan", and others.

Challenge Red Banners of: the CPSU Central Committee, USSR Council of Ministers, AUCCTU and Komsomol CC, ministries and trade union central committee of the industrial sector; also, Challenge Red Banners established by the administrative, party, trade union and Komsomol organs of republics krais and oblasts, as well as those established by the administration and social organizations of trusts, associations, and trade union staffs at construction projects for award to the best collectives.

Honorary diplomas, degrees, streamers and badges, established by the AUCCTU, Komsomol CC, and the Central Committee of the Trade Union for Workers in Construction and the Construction Materials Industry and Ministries.

Special prizes, streamers and medals on an all-union scale for award to labor collectives occupied in the construction of projects of various significance (The Star Streamer imeni Yuri Gagarin); prizes from the central newspapers and magazines, and so on.

INCENTIVES FOR PARTICIPANTS IN INTRA-CONSTRUCTION-ADMINISTRATION SOCIALIST COMPETITION. Verbal commendation is accomplished by the brigade leader, the foreman, by the section chief, or by other supervisors in the presence of the entire collective in the workplace, or at a meeting of the brigade or section workers.

An official message of appreciation is announced through the construction administration or the trust by the manager of the construction administration or trust in cooperation with the corresponding trade union organ. The labor collective in which the recipient works is informed of the official commendation order.

Congratulatory letters to the families of the best workers are sent by the competition organizers upon successfully completing important production targets, or in the event of a victory in socialist competition. The letter is sent in the name of the administration and the social organizations of the construction administration or trust.

Hoisting the flag of labor glory is accomplished in honor of an outstanding collective in accordance with the results of daily (weekly, monthly) totals of the competition, in celebration of great successes in labor.

Being photographed with the unfurled banner of the construction organization is done according to the results of the competition, while a photograph with a commemorative inscription concerning the services of the outstanding worker is recommended for presentation under ceremonial conditions at a general meeting of the collective.

Challenge Red Pennants, established by the organizers of the competition, are presented according to the results of the competition and its conditions. It is advisable to use this form of moral incentive in combination with material incentives.

Honorary degrees are awarded to the winners of the competition or to the best workers and collectives in connection with successful completion of responsible tasks and socialist obligations, as well as to workers who display initiative in the spread and introduction of new equipment, progressive technology, or in rationalization and inventiveness. Award of an honorary degree is made by joint resolution of the administration, trust and trade union committee. The award may be accompanied by a bonus for the worker.

It is not recommended to award an honorary degree to workers when giving them honored titles, since they are given a fitting certificate or diploma at this time, and an entry is made in their work booklet.

Entered on the Honor Roll are outstanding workers who have over an extended period of time achieved high indicators in the competition, and who have through honest labor and social activity promoted an increase in the effectiveness of production. Nomination of candidates for the Honor Roll is accomplished by resolution of the trade union committee and the administration. The worker is given a special certificate to show that his portrait has been hung on the Honor Roll. Selection for the Honor Roll may be accompanied by the award of a bonus and a copy of the portrait which hangs on the Honor Roll, with a suitable inscription.

Entered in the Book of Honor (chronicles of labor glory) are the workers and the collectives which have especially distinguished themselves in the competition, and which have been exemplary in their work for an extended period. Entry in the Book of Honor is accomplished once a year, on the occasion of the Construction Workers' Day holiday, and is accompanied by the presentation of a certificate of their established example.

INDIVIDUAL HONORARY TITLES. Honorary titles for high-quality work, for example, "Exemplary Quality Worker", are awarded to workers who do high-quality work and are given out only on the first presentation. Award of the title is

accomplished through joint resolution of the administration and the joint trade union committee of the trust. It is advisable to accompany this type of incentive with a bonus for the worker, and presenting him with a certificate and a medal of excellence.

The honorary title "Best in Profession" can be established in a construction administration (and equivalent organizations), in a trust, head office, or ministry.

In a construction administration, the title "Best in Profession" is awarded to workers, who have achieved high indicators in increasing the productivity of labor, in utilizing reserves from careful expenditure; who make use of progressive work methods; who do not have breakages, violations of labor discipline or public order; who maintain their working position in exemplary order; who render assistance to those who lag behind; who continually increase their technical level and their professional skills; and who actively participate in social activities. The title is awarded upon summing up the results of the competition for the month and for the quarter. The title is conferred through a joint decree of the trade union committee and the administration. It is advisable to award bonuses to workers who have earned the title "Best in Profession", and to place their names on the administration's Honor Roll.

In a trust, the title "Best in Profession" is awarded to workers, who have not less than three times in a row held the "Best in Profession" title at the construction administration level, and who have achieved high production indicators. The title is conferred upon summing up the results of competition for a six-month period or for a year, through a joint resolution of the joint trade union committee and the administration of the trust, upon nomination by the trade union committees and the management of the construction administrations. It is advisable to award bonuses to the workers who have earned this title, and to enter their names on the Honor Roll of the trust or at the display for "Best in Profession". An appropriate entry concerning the award of the title is made in the work booklet.

The title "Best Young Worker" may be established in construction organizations according to the procedures described above. The award of this title is accomplished by the appropriate Komsomol and economic organs with the consent of the trade union committee. For those who have earned this title, it is advisable to employ incentive measures such as giving first priority to the award of a higher skill level, and sending them to a tekhnikum or VUZ for training.

An important incentive measure for lengthy service is the award of the title "Veteran of Labor" and "Honored Veteran of Labor", with presentation of a commemorative certificate, a valuable gift and entry in the Book of Honor. Experience indicates that it is advisable to confer these titles to workers who have worked continuously in the trust's system not less than 15-20 years.

It is recommended to specify a number of privileges for the workers who have earned the titles indicated above; for example: offering them leave at the most favorable time of year; offering first priority in trips to rest homes, sanatoria and other health-improvement establishments; increased remuneration according to the year's totals; and priority in allocating living quarters.

It is also necessary to stipulate a range of measures, both material and moral, for influencing violators of labor and production discipline—depriving them of the right to take leave during the summer period, or to take trips to rest homes; total or partial denial of bonuses for annual work results; reducing one's priority on the waiting list for living quarters, and others.

The title "Best Teacher-Mentor" is awarded to workers, brigade leaders, foremen and engineering-technical personnel, who have successfully sponsored young and backsliding workers. The title is conferred according to annual work results by resolution of the joint trade union committee of the construction administrations and the council of mentors. Workers who have earned the title are given a certificate.

HONORARY TITLES FOR COLLECTIVES. The title "Best Brigade (Section) of the Construction Administration" is conferred upon collectives which, upon summing up the results of the competition for the month, have successfully fulfilled their planned assignments, socialist obligations and the conditions of the competition. A collective which has earned this title is presented with the Challenge Red Pennant and a certificate; it is desirable to pay a monetary bonus at the same time.

The title "Best Brigade (Section) of the Trust" is conferred upon collectives from among those which have earned the title of "Best Brigade (Section) of the Construction Administration". The title is awarded according to quarterly work results to the brigade (section) which has achieved the best work indicators in the trust. The title is conferred along with the presentation of the Challenge Red Pennant and a certificate, and it is desirable to include a monetary bonus. The collective is entered on the Honor Roll of the trust (or the display for outstanding competitors).

Socialist competition is continuously developing in construction, and is acquiring new forms; it is becoming more and more extensive and diversified. This requires daily improvement in the organization of incentives for the participants. Even the very best forms, if they are not varied, may not give the desired results at times, since the workers grow accustomed to them.

Increasing the effectiveness of providing incentives to those taking part in the competition is also associated with the necessity to improve the award rituals, to establish a solemn atmosphere for the award process. Only the organization's supervisors should confer the awards, along with the representatives of the party and the trade union organs, regardless of where the ritual of incentive is conducted—whether at a ceremonial assembly of the trust or at the primary collective (brigade). It is necessary in all cases to establish a solemn atmosphere. It is advisable to bestow monetary awards in an inscribed envelope, along with congratulations and wishes for continued successes.

It is proper to notify the persons to be decorated and the members of the collective in good time, by means of special written invitation slips, of the time and place for honoring the worker. The invitation should be cordial, respectful, and addressed not only to the worker personally, but also to the members of his family. It is advisable to vary the text of the invitation for

every worker. It is also fitting to invite to the festive gathering dedicated to the results of competition for the year, delegations of the other collectives in the competition, as well as the construction subcontractors. It is also important to invite the veterans of labor who work in the organization. Members of the families of the honorees may also be invited to the celebrations; moreover, they should be given places of honor and shown special attention. It is also advisable to invite the younger generation to take part in the celebration—students from the vocational-technical schools, and Pioneers, who may also congratulate the award winners on their own behalf.

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LABOR

REDISTRIBUTION OF LABOR UNDER INCREASED MECHANIZATION VIEWED

Moscow SOTSIALISTICHESKIY TRUD in Russian No 5, May 83 pp 100-104

[Article by L. Danilov and V. Karev, Scientific Research Labor Institute:
"Technical Progress and the Availability of Personnel"]

[Text] Our country has achieved much success in increasing the equipment-worker ratio: in just the 1940-1981 period the power per worker ratio rose 7.3-fold in industry, the mechanical power per worker ratio in construction rose 24-fold, and the power per worker ratio in agriculture rose 27-fold. Now all the sectors of the economy are relying on large-scale production with machines. But the replacement of manual labor by machine labor, which, in the words of V. I. Lenin, "... comprises the entire progressive work of man's technology,"* still has not encompassed all production units. The sphere in which manual labor is applied, mostly semiskilled and not uncommonly heavy physical labor, remains very broad at the present time.

Under the conditions when the natural growth of labor resources is dropping off sharply, which is especially characteristic of the eighties, the reduction of employment at manual labor is the principal manpower reserve at existing enterprises. Increasing the scale on which people are freed from manual jobs will make it possible to reduce the relative manpower shortage and will contribute to better staffing of newly built enterprises and higher efficiency in use of the country's labor resources.

At the same time elimination of manual labor, as noted at the 26th CPSU Congress, "is not just an economic, but also a serious social problem. Solving it means removing substantial obstacles on the way toward transforming labor into every man's primary vital need."**

Taking into account the particular importance of solving this problem and its intersectoral nature, the party and government have deemed it advisable to draft a comprehensive target program for reduction of the use of manual labor. It includes all the technical, economic and social aspects, including displacement of workers from manual jobs, their reassignment, and if necessary

* Lenin, V. I., "Poln. sobr. soch." [Collected Works], Vol 1, p 100.

** "Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 57.

their retraining and job placement. A determination has to be made as to which groups of manual workers should be displaced first from the standpoint of their age- and sex-specific characteristics, level of education, length of service, and so on, which jobs to offer them, how to ensure their workplace adaptation at the new job in the shortest time, etc. We should note in this connection that solving these problems has not as a rule been provided for in the previously drafted regional (oblast, republic) programs for reduction of use of manual labor. Nor have there been any recommendations whatsoever on these matters in the methods literature. Yet the level of social costs related to job changes and the effectiveness with which the displaced workers are used in the future depend on the planned organization of work with personnel. The importance of the scientific approach to solving these problems will increase steadily as the comprehensive target program for reduction of manual labor is carried out and as workers are displaced from manual jobs on a larger scale.

The Scientific Research Labor Institute has conducted a questionnaire survey of workers at 13 enterprises in machinebuilding, ferrous metallurgy, and the coal, light and timber industries (Kirovograd "Krasnaya Zvezda" Plant, Moscow "Serp i Molot" Plant, Minsk Tractor Plant, Krasnoyarsk Garment Production Association "Zarya," "Voroshilovgradskaya" Mine No 1, the Badinskiy, Novochunskiy and other timber and lumber complexes in Irkutsk Oblast and Krasnoyarsk Kray, etc.) in order to study more thoroughly the problems of vocational guidance of persons displaced from manual jobs and to determine the conditions that help them to stay and adapt at their new job, since it is in these sectors that most of the workers employed at manual labor are concentrated.

Success in the effort to reassign the workers displaced and to achieve their adaptation at the new job depends in large part on the extent to which the administration of the enterprise conducting these measures takes into account the workers' wishes as to the new place of work. In order to discover these wishes, the following question was put to the workers displaced from manual jobs: Having faced the necessity of changing jobs, did they want to go through a training course and begin work in a mechanized operation or did they prefer manual work in the future? The answer showed that the majority of young workers wanted to master a mechanized occupation. About 75 percent of the respondents between the ages of 30 and 39 expressed such a desire. More than half of the older workers in the same situation preferred to do manual labor, but not heavy skilled labor. We should note in this connection that 21.8 percent of all the workers between the ages of 40 and 49 and 41.9 percent in the 50 and over group favored working in their previous manual occupation, i.e., as a practical matter they favored continuing work at their previous workplace. This desire was manifested with particular strength among elderly workers and is explained on the one hand by the reluctance to lose the occupational skills acquired in the process of many years of work, to give up the accustomed pace of work, and it is also because it is more difficult for them to retrain in a mechanized specialization, since they would have to go through a training course requiring a certain level of general education and specialized training and significant psychological stresses. Evidently their decision was also influenced by another factor--the reluctance to lose those benefits and advantages which have been established for workers employed in

sections with heavy and unfavorable working conditions. Their transition to a new workplace may involve loss of those benefits (earlier retirement) or reduction in the wage level. And often the elderly workers have a high skill class, and when they move to operating machinery they do not always gain in their wages. By and large these are people with lengthy service and experience who at the moment when their previous jobs were eliminated had wages higher than young workers employed at manual labor. More than half of them (53 percent) did not get wage increases when they made the move, and 14.5 percent even had a reduction. That accounts for their negative attitude toward moving to jobs in which the work is mechanized.

At the same time the administration cannot furnish jobs with the previous wage to all elderly persons remaining in manual jobs, since it is heavy manual labor that is being eliminated first of all (which as a rule is highly paid), and, as the survey showed, 39.3 percent of the elderly people continuing to work at manual jobs lose on their wages.

The results of this survey allow us to conclude that elimination of jobs involving manual labor in which persons of elderly and especially prepension age are employed should be under the particular eye of the enterprise's administration and public organizations. In order to avoid conflict situations provision should be made for timely movement of elderly workers displaced or planned for displacement in connection with reduction of manual labor to appropriate jobs vacated as individual workers retire or quit or for other reasons.

The relative share of those wishing to remain in manual jobs increases with age. It is significant that this tendency is preserved in approximately the same proportions even among people with secondary education. Age 40 should be taken as the critical age. As research has shown, people reaching age 40 are very reluctant to change their occupation. It is obvious that this circumstance can cause certain difficulties in carrying out the comprehensive program for reduction of the use of manual labor.

Organized movement of workers ensuring their timely transfer from manual jobs (before they develop a conservative attitude toward mechanized labor) should play a constructive role in preventing this negative phenomenon. But, as the analysis showed, a desire to work in a mechanized occupation reflects only a person's potential willingness to change his job. As we know, when the move is made to mechanized production sections many aspects of the worker's workplace situation change. If these changes involve improvement of working conditions, a lessening of the physical strain, and higher wages, then workers are glad to move from manual to mechanized labor, and as a rule they stay at the new job. Such a situation was observed, for example, in the timber and lumber industry when chokermen, skidders, loppers, and stackers working by hand were transferred to positions where they operated tractors, cranes and branch-cutting machines, or in the garment industry when seamstresses were transferred from machines operated by hand or foot pedal to machines powered by electricity.

Unfortunately, this is not always the case. There are times when the machinery does not meet the requirements of health and safety standards or of

biotechnology, which has already been pointed out in the press.* Mechanization which does not take into account the physiological and psychological peculiarities of man's activity in the work process generates new problems. It is still true that those developing new technology sometimes do not think about the conditions in which people will be working.

In one of the foundries surveyed coremakers working by hand were transferred to machine molding. But this process takes place at higher temperatures, and active chemical substances are given off. Attention was called to this by 82 percent of the workers under age 24 and more than 40 percent of the workers in other age groups. A transfer to mechanized work from manual work in this section was protracted and involved definite difficulties. In order to attract workers who had been displaced from manual jobs to these operations the enterprise was forced to give up the use of the new equipment on the night shift, to restructure the system of the organization of work and work incentives in order to furnish the workers a wage increase of 30-40 rubles. But failure to take the human factor into account when this equipment was designed to mechanize the work of coremakers is continuing to have its effect on the work of the section. As the survey showed, about 50 percent of the workers expressed their intention to change their occupation, referring to the fact that working conditions were unsatisfactory.

Experience suggests that the transfer of displaced workers to a new job should be preceded by a specific preparatory effort both in the area of the organization of production (working out the optimum work schedule, studying the possibilities for introducing progressive forms of the organization of work and remuneration, creation of the most favorable conditions, and so on), as well as in the handling of personnel matters (prior talks with each of them, discovery of their wishes, and so on).

It is very important in the transitional period that those displaced from manual jobs receive vocational retraining. It should help to bring out the prerequisites for improvement of the worker's qualifications and accordingly his wages at the new job, and it should open up new prospects for occupational advancement for him. Fulfillment of these requirements represents an important incentive for the move to a section in which work is mechanized.

It was established as a result of the survey we conducted that in making the transition from manual to mechanized labor 38.7 percent of the workers went through course training, 52.3 percent through individual and group training, and 8.9 percent received no specialized training at all. Especially little attention was paid to training workers displaced at machinebuilding plants and enterprises of light industry, where only 20 percent of the workers went through training courses. We should note that as a rule the displaced workers go through this kind of training only when it is practically impossible to work in a new occupation without specialized training: for example, when a stevedore moves to a job as a crane operator. Most often this occurs when auxiliary operations are being mechanized.

* SOTSIALISTICHESKIY TRUD, No 7, 1981, p 24.

When individual operations in the principal production process, previously done by hand, are being mechanized, the worker's transfer to mechanized work is done according to current practice after he goes through brief (2-3-week) individual or group training. This is the practice in the foundries we surveyed, for example, when coremakers move from manual to mechanized molding.

The experience of the enterprises surveyed demonstrated that even such preparation affords the possibility of raising wages at the moment of transfer from manual labor to mechanized work within an occupation (75 percent of the young workers indicated a higher wage, 69 percent of workers between the ages of 25 and 29, and 58 percent of the workers between the ages of 30 and 39).

Among young and middle-aged people who preferred to remain on manual jobs wages as a rule did not change. This was noted by 80 percent of the workers under age 24, 59 percent between the ages of 25 and 29, and 53 percent between the ages of 30 and 39.

The degree of adaptation of the displaced workers at the new job was also studied during the survey. For this purpose we offered four alternative responses as to their intentions for their future: improve production skills; job satisfactory, I do not intend to go to school; to change my occupation to one involving mechanized work; to transfer to a job in my previous or a different manual occupation.

As a rule the group of young workers showed high ability, a search for "their own" occupation, a desire to acquire new knowledge, and it included the highest percentage of those who wanted to improve their skills (27 percent) and the lowest percentage (28 percent) of those who are satisfied with their present work and their level of occupational training. But 45 percent of the people under age 24 who transferred to mechanized work were not satisfied by their new job and intended to change occupations once again. They included above all the coremakers mentioned above, who were running the "hot boxes," lumberjacks using power tools, cutters in mining, and foundry chippers, whose work is in the heavy category, and also workers whose possible improvement of skill in the occupation they had was limited to the third class.

People aged 40 or over, who are the most exacting as to choice of a new occupation, as a rule stayed in the other job after the transfer (87.1 percent of those doing mechanized work and 75.9 percent of those doing manual work replied that their work suited them and that they did not intend to go into training). Workers in the age groups between 25 and 29 and between 30 and 39 occupy an intermediate position with respect to the criteria we have examined. Thus the desire to go into training and to change occupations drops off with age.

About 30 percent of those surveyed expressed the desire to change their occupation. Among the principal motives behind this change in occupation they mentioned: dissatisfaction with working conditions (44 percent), not happy with wages (19 percent), not happy with the occupation acquired (17 percent).

An important tendency revealed in this connection was the change in the relative distribution of the causes of workers' dissatisfaction with their work as a function of the time they had worked in their new occupation. Dissatisfaction with working conditions is the principal reason given over the 3-year period we studied, and especially in the first half-year after transfer to the new job--63 percent of the respondents intended to change their occupation. By the end of the first year of work at the new job the number of those not happy with the new occupation was 25 percent. Dissatisfaction with wages is manifested only after 1.5-2 years of work at the new job and is later one of the reasons for changing occupations (32 percent).

In order to prevent personnel turnover and excessive intraplant movement of personnel in connection with reassignment of workers displaced from manual jobs, in our view a study should be made of their psychophysiological characteristics and also of the higher demands (especially of young people) with respect to working conditions. It is important not only to introduce mechanization, but also, even in the design stage, to be concerned that the new technology eliminate the possibility of the occurrence of consequences harmful to the human organism during the period of its operation. In addition, the results of the survey confirm the need to introduce everywhere the system of personnel advancement in occupational skills.

Thus measures related to reassignment, retraining, job placement and adaptation of workers displaced from manual jobs must be an important and integral part of the comprehensive target program for reduction of the use of manual labor. In our view it would be best to give them a separate section, which would provide for organizational and psychological preparation of the workers displaced for the job change, a study of their desires with respect to the new job, retaining or changing occupation, forms of retraining, and so on, plans for reassignment and retraining of the workers displaced, and also a multianual plan for their occupational advancement. In addition, measures should also be dealt with here for following up on the adaptation of the workers in production and social terms at their new jobs.

When measures are carried out to displace workers from manual jobs it is indispensable to take into account the age- and sex-specific characteristics, peculiarities of occupational orientation, and conditions conducive to adaptation and permanence in the new job. Other conditions being equal, this effort should be differentiated by age groups: young workers (under age 24), those between the ages of 25 and 39, and those 40 or over. Since the most substantial difficulties are experienced in this connection by workers who are age 40 or over, it is recommended that the enterprise administration restrain from eliminating the jobs they hold until they retire or leave for other reasons.

At the same time, taking into account the potential readiness of young workers (under age 24) to change occupations and also the difficulty of finding personnel to fill jobs involving manual labor, it is permissible to assign them temporarily (for 2 or 3 years) to these jobs provided they are guaranteed more attractive work in the future through the system of occupational and skill advancement.

In connection with the choice of directions for reassignment of workers displaced it should be borne in mind that young people show an interest in moving to occupations involving mechanized work. But their adverse reaction to a worsening of working conditions must not be forgotten and their interest in the possibilities of improving their skill ignored.

In defining the forms for retraining young workers it is advisable to guide them toward those occupations which require longer periods of training, which is in line both with their capabilities and also their aspiration to obtain a more skilled occupation and thereby to guarantee themselves higher wages and further advancement in the future. In the case of workers between the ages of 25 and 39, it is better to prepare them for occupations involving mechanized labor which can be mastered in a comparatively short time.

Of course, the problems concerning displacement of workers from heavy manual labor and from harmful working conditions require further research. The data we obtain can offer substantial help in drafting measures concerning reassignment of manpower so as to take into account the interests of society and of each person individually.

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LABOR

INTENSIFIED USE OF ONLY WELL-EQUIPPED WORKPLACES ADVOCATED

Moscow FINANSY SSSR in Russian No 6, Jun 83 pp 22-26

[Article by Candidate of Economic Sciences T. B. Akhmedzhanov, senior scientific associate of the Scientific Research Institute of Finance: "Questions of the Intensification of the Use of Workplaces in Industry"]

[Text] In a speech at the November (1982) CPSU Central Committee Plenum Yu. V. Andropov, having indicated the key tasks of the further development of the national economy, noted the need for their examination "...with a breakdown not only by each sector, but also by each plant, each shop, section and, if you wish, each workplace."¹

The financial and economic importance of the available workplaces finds expression in the fact that they, on the one hand, are the carriers of significant financial and material expenditures on their creation and use and, on the other, characterize the potential opportunities of the national economy in the increase of the national wealth and the production of material wealth. Therefore the close attention of scientists and experienced workers should be devoted to the questions of the effectiveness of the functioning of the existing workplaces and the increase of the intensity of their use.

During the past decade in USSR industry more than 3 million workplaces were created. In this connection tens of billions of rubles were spent just on the placement of fixed capital into operation. However, a significant portion of this capital was not backed with the necessary manpower and in fact is idle or not completely used equipment. Under these conditions it is extremely necessary "to take steps on the achievement of a balance of the existing workplaces and the workplaces being created with manpower resources,"² it was noted at the 26th CPSU Congress.

The quantitative and qualitative imbalance of the basic elements of the workplace (manpower, means of labor and objects of labor) can appear in practice in the most diverse forms. Specifically it can find expression in the failure to provide the

1. "Materialy Plenuma TsK KPSS. 22 noyabrya 1982 goda" [Materials of the CPSU Central Committee Plenum. 22 November 1982], Moscow, Politizdat, 1982, pp 11-12.
2. "Materialy XXVI s'yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 41.

workplaces with the necessary personnel, in the incompleteness of the means of labor, which are envisaged by the plan, or in the shortage of individual types of raw materials and materials.

Primarily the first type of imbalance of the elements of the workplace is examined in this study, since under present conditions it is most typical for our economy. In recent years the difference in the growth rates of fixed capital and manpower, which increases the imbalance of the workplaces with manpower resources, has been appearing clearly.

By the beginning of the 11th Five-Year Plan in the machine building sectors alone about 200,000 machine tools for various purposes remained idle for this reason. According to the periodic surveys conducted by the USSR Central Statistical Administration at machine building enterprises, during the years of the 10th Five-Year Plan the shift coefficient of installed equipment, especially during the second and third shifts, was low.

Among the causes of the idle times of equipment the understaffing of the regular labor force occupies the main place. During the last 3 years of the 10th Five-Year Plan alone the number of full-day idle times of equipment, which occurred due to the shortage of manpower, increased by 0.3 percent.

The proportion of the workplaces idle during the day at the enterprises of the Ministry Heavy and Transport Machine Building, the Ministry of Power Machine Building, the Ministry of Construction, Road and Municipal Machine Building, the Ministry of the Machine Tool and Tool Building Industry and so on is especially great. On the regional level such a situation is most characteristic of the Turkmen, Tajik, Estonian, Kazakh and Moldavian SSR's.

The nonstaffing of workplaces with the necessary personnel was aggravated significantly by the losses of working time due to unauthorized absences, absences with permission of the administration and full-day and intrashift idle times. In recent years tens of thousands of workplaces in industry, construction, rail and motor transport and other sectors of the national economy were idle daily for these reasons.

The imbalance of the workplaces of basic production with manpower resources in many ways is explained by the fact that about 50 percent of all the workers are employed in ancillary production. To this it is necessary to add that 40 percent of the industrial workers are employed in manual and unproductive operations, the mechanization of which can also become an important source of the freeing and purposeful redistribution of manpower. In this connection the rapid elaboration and implementation of comprehensive goal programs on the decrease of the use of manual labor at enterprises and associations are acquiring great importance. Particular attention should be devoted to the mechanization and automation of manual labor in ancillary production, where its proportion is quite large.

The slow reorganization of the process of the reproduction of fixed capital in conformity with the requirements of the intensification of industrial production is the main cause of the inefficient use of the existing workplaces and the low shift coefficient in many sectors and republics. Under the conditions of the aggravation of the demographic situation the enlargement of the pool of machines and equipment

not only by means of new equipment, but also especially by means of reconditioning of obsolete equipment is extremely undesirable. The 16.8-percent increase of the number of full-day idle times of workplaces at machine building enterprises, which occurred from 1975 to 1980, is explained precisely by malfunctions and unscheduled repair.

In spite of the significant proportion of obsolete fixed capital, the process of its updating is taking place extremely slowly. In particular, the data on the placement into operation and retirement of industrial fixed capital during 1970-1981 with respect to enterprises, which are carried on an independent balance sheet, as a percentage of the fixed capital at the end of the year, attest to this (see the table).

	1970		1975		1980		1981	
	placement into opera- tion	retire- ment	placement into opera- tion	retire- ment	placement into opera- tion	retire- ment	placement into opera- tion	retire- ment
All industry.	11.9	1.8	8.8	1.6	8.1	1.4	7.3	1.3
Machine building and metalworking.	13.9	1.4	10.2	1.2	9.6	1.2	8.7	1.1

The low rate of the updating of fixed capital in many ways is explained by the maintenance of the working capacity of obsolete equipment by means of capital repair, in essence, reconditioning. Whereas capital repair is the partial restoration of the use value of worn out equipment within the limits of the economically sound service life, reconditioning is performed with respect to equipment which has exceeded this life.

The extensive form of the reproduction of fixed capital at present is economically inadvisable. It does not conform to the new demographic situation and the tasks of the intensification of industrial production, increases the imbalance of the basic elements of the workplace, by artificially increasing the shortage of manpower and boosting repair work. In the end this decreases the possibilities of the maximum utilization of each workplace and influences such most important indicators as labor productivity, the output-capital ratio and especially the shift coefficient.

The fact that during the past decade an orientation toward new construction and the expansion of enterprises without the proper consideration of the state of manpower resources was pursued, in many ways also aggravated the imbalance of the elements of the workplace. Significantly less work was performed on the renovation of old industrial enterprises.

Thus, whereas during the years of the 9th Five-Year Plan the number of newly created workplaces exceeded by twofold the number of workplaces which were subjected to improvement at renovated enterprises, during the first 3 years of the 10th Five-Year Plan this ratio had already reached 2.4. The ratio of unmanned workplaces at

renovated enterprises and at enterprises newly put into operation (subject to expansion) came in 1975 respectively to 4.1 and 2.7 workplaces, in 1976--3.6 and 2.4, in 1977--3.6 and 3.8 and in 1978--2.2 and 3.7. The situation is being aggravated by the fact that many enterprises under the guise of renovation are actually expanding operating works. Thus, for the enterprises of the RSFSR, which were renovated during the years of the 9th Five-Year Plan, the number of personnel increased by 100,000.³ And this is at a time when the increase of the production volumes and the increase of the quality of the output being produced without an increase of the number of workers are an indispensable requirement of renovation. Moreover, renovation should be accompanied by the freeing of manpower, especially the manpower employed in ancillary production.

Under the formed conditions for the increase of the efficiency of industrial production it is expedient to eliminate the workplaces furnished with obsolete equipment and to change the freed workers over to a two-shift (three-shift) work schedule using comparatively new equipment. The elimination of obsolete workplaces will make it possible also to free and transfer to basic production a large army of highly skilled personnel, who are engaged in the repair of obsolete equipment, and to decrease the material, financial and labor expenditures on repair services.

The changeover to work with a higher shift coefficient involves the accomplishment of a number of quite complicated socioeconomic and organizational tasks. Much experience in the accomplishment of these tasks has been gained at the industrial enterprises of Leningrad, where a significant economic impact was obtained as a result of the elimination of obsolete workplaces and the increase of the shift coefficient.

The shift schedule of the use of modern workplaces in the case of the elimination of obsolete workplaces is especially important now, when the disproportion between the accumulated pool of machines and equipment and the inadequate opportunity of the machine building industry to reproduce the fixed capital which is to be written off has increased noticeably. In recent years machine building has not kept pace with the needs of the national economy, since the growth rate of the production of means of production is considerably less than the growth rate of the gross output. It came to: in 1966-1970--7.6 percent, in 1971-1975--8.5 percent, in 1976-1980--less than 7 percent.⁴ The forming growth rate of the output of qualitatively new equipment is checking the replacement of obsolete and worn out machines and equipment.

It is necessary to note the significant prevalence at present of all kinds of small pilot works attached to scientific research institutes and design bureaus. At them, as a rule, new equipment and highly skilled workers are being used, but the shift coefficient is one-third to one-half as great as at industrial enterprises. The centralization of such works on the regional or sectorial level would make it possible not only to increase the full-shift utilization of workplaces, but also to free a significant number of highly skilled workers and critical machine tools.

3. PLANOVYE KHOZYAYSTVO, No 12, 1981, p 45.

4. PLANOVYE KHOZYAYSTVO, No 1, 1983, p 32.

The extensive introduction of advanced forms and methods of the organization of labor (multiple-machine attendance, the combining of occupations, the enlargement of the service area, brigade forms of the organization of labor and so on) is an important direction of the increase of the efficiency of the use of workplaces. As practical experience shows, in many ways this depends on the effectiveness of the system of stimulation, which is being used. However, many ministries are still using inadequately the opportunities at their disposal. Thus, in 1981 increments due to the saving on the wage fund, which stimulate the increase of the occupational skill of workers, were established in industry for only 0.3 percent of the workers.

The shortcomings in the organization of the norm setting of labor are also hindering the increase of the efficiency of the use of workplaces. The fulfillment of the prevailing output norms in industry as a result of their untimely revision increased in 1981 as compared with 1980 by 1.4 percent. The norm setting of labor especially worsened in machine building. This applies first of all to the enterprises of the Ministry of the Machine Tool and Tool Building Industry, the Ministry of Power Machine Building and the Ministry of Chemical and Petroleum Machine Building.

In 1981 the norms of labor of pieceworkers were practically not revised in the USSR Ministry of Ferrous Metallurgy, the USSR Ministry of the Construction Materials Industry, the USSR Ministry of the Food Industry, the USSR Ministry of the Fish Industry and the Ministry of Mineral Fertilizer Production. In industry during the first year of the 11th Five-Year Plan only a negligible portion of the prevailing norms for piece-rate jobs was revised, while the conditional release of pieceworkers as a result of the revision of the norms decreased as compared with 1980 by 0.2 percent. In 1981 for industry as a whole only 0.3 percent of the workers whose wages are based on a time rate were conditionally released due to the revision of the norms. In practice the revision of such norms was not carried out in the Ministry of the Petroleum Industry, the USSR Ministry of Power and Electrification, the Ministry of Construction, Road and Municipal Machine Building and the USSR Ministry of Light Industry.

Along with the improvement of the system of the norm setting of labor it is necessary to take steps on the enhancement of the stimulating role of the wage in combination with the increase of the responsibility of the worker for the efficiency of the use of his workplace. At present in practice the wage is changed not only upward, but also downward subject to the results of work only for pieceworkers, who make up less than 20 percent of the number of workers and employees in the national economy. Even the workers, whose wages are based on a time rate and who while working on the standardized assignments have the rates of pieceworkers, receive the full rate in case of the nonfulfillment of these assignments.

The full salary is also guaranteed to all engineering and technical personnel and employees. Decisions are not made on the decrease of the salary in accordance with the made certifications of workers. This, undoubtedly, decreases the stimulating role of the wage, which it is called upon to play in the matter of increasing or if only maintaining the achieved level at each workplace. In this connection it seems expedient to us to introduce in economic practice a provision which envisages the broader interpretation of the stimulating (not only incentive) potentials of the wage. In particular, in case of the worsening of the results of work at the given

workplace in accordance with a decision of the certification commission or another authorized organ the salary of the worker should be revised downward (within the limits of the "spread") for a specific period, which is established individually in each specific case.

At the same time it is necessary to increase the material and moral responsibility of workers for defective output and the excessive consumption as against the norms of material resources at every workplace. For this we consider expedient the use of various forms of compensation by individual workers for the harm which has been done to the state through their fault. The working off of the harm during overtime could be one of these forms. Here it is necessary to be guided by the fact that the strengthening of the principle of socialist democracy at the stage of mature socialism is governed not only by the broadening of the rights of the working people, but also by the increase of the responsibility to society for the results of labor at their workplace. For this purpose it would be advisable to change the existing practice of the issuing by the USSR State Bank of assets for wages in accordance with standards which have been revised upward, as well as to prohibit the writing off of the overexpenditure of wages before its complete reimbursement.

At the same time it is necessary to improve the system of the formation of material incentive funds on the basis of direct deductions from the real saving of individual types of resources--from the decrease of material expenditures, the speeding up of the assimilation of capacities and the increase of the shift coefficient. This will make it possible to interest the collectives of enterprises in the maximum utilization of the available workplaces.

The closer link of the payment for labor with its results at every workplace should promote the assurance of a leading growth rate of labor productivity over the growth rate of the average wage. At present, as the analysis shows, this most important requirement of expanded reproduction is frequently violated.

Under the conditions of the significant understaffing of the existing workplaces with the necessary personnel the limit of workers and employees in the production sectors of the national economy, which has been established since 1981, is acquiring great importance. The strength of this limit lies in the penalties which are envisaged for its violation. At present the reward, which is paid to management workers of enterprises in accordance with the results of the work for the year, can be reduced by up to 50 percent for the exceeding of the limit. However, the optional nature and limited amounts of the penalty already during the first year of the introduction of the limit (1981) enabled many industrial enterprises to retain an above-limit number of personnel. Thus, one new enterprise in five, which had not assimilated its rated capacities on time, was not provided with skilled personal. Many operating enterprises were also undermanned.

The existing imbalance of manpower resources and workplaces in many ways is explained by the lack of recording of the latter. The fact that the limits, which are presently being established, are inadequately sound and do not always correspond to the real needs of enterprises for manpower, is also connected with this. At the same time any lack of conformity of the number of personnel and workplaces signifies the underutilization of living or embodied labor. The quickest possible organization of the recording of workplaces individually by categories of workers seems necessary to us. In this case, in our opinion, the need for the establishment

of a limit of the number of workers would disappear. Given specific information on the number of workplaces with respect to all categories of workers the plan on the number of workers would be equal to the sum of the available workplaces with allowance made for the shift coefficient and other deviations which are connected with the elimination or the creation of new workplaces. It is expedient to record the information on the number of workplaces in standard form 6.1 of the passport of the production association (enterprise), in which the limit of the number of workers is presently cited.

In our opinion, it is expedient to envisage equally exacting and mandatory penalties both for the surplus of manpower and for its shortage. In this case the management of enterprises will be interested in the elimination of superfluous workplaces, which, undoubtedly, will lead to the decrease of obsolete and worn out equipment, the balance of workplaces and manpower resources, the decrease of the expenditures connected with repair and the reduction of defective output and amortization deductions and in the end will ensure a saving on the production cost of industrial products.

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